

Montana Department of Environmental Quality  
Permitting and Compliance Division  
Waste and Underground Tank Management Bureau  
P.O. Box 200901  
Helena, Montana 59620-0901

## **Draft Environmental Assessment**

ConocoPhillips Company  
Billings Refinery  
401 S 23<sup>rd</sup> Street  
Billings, Montana 59101

Montana Hazardous Waste Permit Number MTHWP-02-01

### **Legal Location**

Northwest ¼ of Section 2, Township 1 South, Range 26 East in Yellowstone County, Montana

### **Purpose of the EA**

The Montana Department of Environmental Quality (DEQ) is required under the Montana Environmental Policy Act (MEPA) to conduct an environmental assessment (EA) on the proposed permit action described in the next section. An EA documents: 1) all reasonable alternatives to DEQ's action; and 2) outlines the potential impacts to the human environment resulting from DEQ's permitting action and the reasonable alternatives.

Based on the impact analysis and professional judgment, DEQ makes a decision on the proposed permit action and summarizes the decision in the EA. If the decision significantly impacts the human environment a more detailed environmental review, called an environmental impact statement, must be conducted by DEQ.

### **Public Comment Period**

The public including interested citizens, DEQ, EPA, other governmental agencies, and the applicant are provided forty-five (45) days to review and comment on the draft EA and proposed permit modification. **The comment period will extend from December 19, 2005 through February 1, 2006.** All persons wishing to comment on the draft permit modification (including the proposed remedy) and/or the draft EA should submit comments in writing to:

Denise A. Kirkpatrick  
Solid and Hazardous Waste Specialist  
Waste and Underground Tank Management Bureau  
Montana Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

A public hearing will be held on January 24, 2006 at 6:00 p.m. on the third floor of the Parmly Billings Library, 510 N. Broadway, Billings, Montana. Any persons may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required.

All written comments must be received by the DEQ on or before February 1, 2006 for consideration. Please contact Denise A. Kirkpatrick at (406) 444-3983 or at the address listed above for further information.

### **Description of Project**

The DEQ received from ConocoPhillips Company (ConocoPhillips) a permit modification request dated October 14, 2005. ConocoPhillips proposed a remedy for soils at a closed surface impoundment, known as the South Oily Sludge Pits (SOSP), at the their refinery in Billings, Montana. The request is for removal of the asphalt cap on the SOSP to allow remediation of soils. This is a change to the approved closure method of the SOSP. The proposed remedy will remove vadose-zone soils to a depth of approximately six feet below ground surface and treat the impacted soil to appropriate regulatory and health based levels.

To facilitate the SOSP remediation a temporary staging pile will be necessary. The staging pile will be used to store soils that contain listed hazardous waste and non-hazardous waste. ConocoPhillips proposed the modification to allow use of the area for construction of a new process unit. The existing remedy at the SOSP limits the space's use and presents geotechnical problems for construction. Therefore, ConocoPhillips proposed a new remedy to the DEQ. A portion of the Area 4 Landfill will also be effected by the construction activities.

The main points of the proposed remedy are listed below:

- Removal of the asphalt cap at the SOSP;
- Excavation of remediation waste at the SOSP and Area 4 Landfill;
- Off-site disposal of solid waste from the Area 4 Landfill including debris and catalyst;
- Soil management including segregation, sizing, and loading;
- Stockpiling non-impacted soil at the refinery pending re-use;
- Stockpiling contaminated soil in a temporary staging pile prior to treatment;
- Treatment of impacted soil exceeding regulatory and/or health based levels. Treatment will likely consist of processing the impacted soil through a low-temperature thermal desorption unit. Treatment will occur within the temporary staging pile; and
- Reuse of soil meeting approved regulatory and health based levels. The soil will be used as backfill at the SOSP or elsewhere on the refinery.

ConocoPhillips identified the modification as a Class 2 modification under 40 Code of Federal Regulations (CFR) 270.42 Appendix I E.5. and N.3. Because of the complex nature of the requested changes, the DEQ required in an October 21, 2005 letter that the procedures in 40 CFR 270.42(c) for a Class 3 modification be followed. A Class 3 modification allows additional public comment time.

Please note that for ease of reading, when federal regulations under Title 40 of the CFR have been incorporated by reference into the Administrative Rules of Montana (ARM), only the federal citation is used in this document. The Montana hazardous waste program administrative rules incorporate by reference 40 CFR 260 through 279 and 40 CFR 124.

## **Objectives of Proposed Permit**

The DEQ's objective in issuing a permit modification to ConocoPhillips is to comply with 40 CFR 270. The permit will include conditions regarding the proposed remedy in order to protect human health and the environment.

## **Alternatives Considered**

This section describes the alternatives considered. The DEQ has determined the requested modification should follow the Class 3 modification requirements. 40 CFR 270.42(c)(6) dictates that the DEQ must grant or deny the permit modification request according to the permit modification procedures of 40 CFR 124.

### Alternative I - Modification (Proposed Action)

The DEQ may approve the modification request and issue a draft permit modification pursuant to 40 CFR 124.6. The DEQ proposes to approve ConocoPhillips' modification request with conditions. The conditions will include requiring implementation of the proposed remedy, submittal of work plans with the specifics on implementation of the remedy, and conditions for the temporary staging pile including operation and closure.

### Alternative II - Denial

The DEQ may deny ConocoPhillips' permit modification request pursuant to 40 CFR 124.6. ConocoPhillips has submitted a complete permit application and the DEQ can issue a permit modification containing conditions to protect human health and the environment. Therefore, the DEQ does not have grounds to deny the permit modification request. The denial alternative is not reasonable and is not considered further.

## **Stipulations and Controls**

All conditions of the draft permit are based on requirements in Title 17, Chapter 53 of Administrative Rules of Montana (ARM) for the management of hazardous waste. ConocoPhillips must comply with the permit conditions to be in compliance with Montana's hazardous waste laws and regulations.

## **Analysis of Regulatory Impacts on Private Property Rights**

A Private Property Assessment Act Checklist was completed for the draft permit and is on file at the DEQ. The DEQ determined that no taking or damaging implications exist requiring a further impact assessment.

## **Summary of Impacts**

The checklist below was only completed for Alternative I. As noted above, Alternative II was not considered because the DEQ determined the alternative was unreasonable.

Tables 1 and 2 rate potential human environment impacts from modifying MTHWP-02-01 according to Alternative I. The human environment includes those attributes, such as biological, physical, social, economic, cultural, and aesthetic factors, that interrelate to form the environment. Impacts may be adverse, beneficial, or both. The following criteria are used to rate the impacts:

- ◆ The severity, duration, geographic extent, and frequency of occurrence;
- ◆ The probability the impact will occur if the proposed action occurs;
- ◆ Growth-inducing or growth-inhibiting aspects of the impact;
- ◆ The quantity and quality of each environmental resource or value effected;

- ♦ The importance to the State and society of each environmental resource or value effected;
- ♦ Any precedent set as a result of an impact from the proposed action that would commit DEQ to future actions with significant impacts or a decision in principle about such future actions; and
- ♦ Potential conflict with local, state, or federal laws, requirements, or formal plans.

The following are definitions for major, moderate, minor, none, and unknown impacts on the human environment:

Major: A significant change from the present conditions of the human environment. Major impacts are serious enough to warrant preparing an environmental impact statement (EIS).

Moderate: Not a major or minor change from the present condition of the human environment. A single moderate impact may not warrant preparing an EIS; however, when considered with other impacts, an EIS may be required.

Minor: A slight change from the present condition of the human environment. Minor impacts are not serious enough to warrant preparing an EIS.

None: No change from the present conditions of the human environment.

Unknown: An EIS must be conducted to determine the effects on the human environment if impacts are unknown.

**Table 1. Potential Impacts on Physical and Biological Environment**

Resources		Major	Moderate	Minor	None	Unknown	Discussion Attached
A.	Air Quality			X			X
B.	Water Quality, Quantity, and Distribution			X			X
C.	Geology and Soil Quality, Stability, and Moisture			X			X
D.	Historical and Archaeological Sites				X		
E.	Aesthetics				X		
F.	Terrestrial and Aquatic Life and Habitats				X		
G.	Vegetation Cover, Quantity, and Quality				X		
H.	Unique, Endangered, Fragile, or Limited Environmental Resources				X		
I.	Demands on Environmental Resource of Water, Air, and Energy			X			X
J.	Cumulative and Secondary Impacts			X			X

#### A. Air Quality

The excavation, handling, and treatment of soil from the SOSP and Area 4 Landfill may result in an increase in fugitive emissions from the refinery. However, the activities will occur over a limited period and if done in compliance with air quality requirements, the impacts should be minor.

#### B. Water Quality, Quantity, and Distribution

The current remedy at the SOSP is an asphalt cap over contaminated soil. The cap prevents soil exposure to surface water and minimizes the mobilization of contaminants in the soil. The proposed alternative would require that the soil be excavated and stored prior to treatment. During remedy implementation, contaminated soil will be exposed and the potential exist for contaminated soil to be exposed to precipitation. A short-term adverse effect of the proposed remedy may be the generation of contaminated water. However, the temporary staging pile will be required to have run-on and run-off controls so any impacted water will be contained and properly managed.

#### C. Geology and Soil Quality, Stability, and Moisture

The proposed alternative will result in the removal of the asphalt cap on the SOSP to allow remediation of soils. The proposed remedy will remove soils to a depth of approximately six feet below ground surface and treat the impacted soil to appropriate regulatory and health based levels. The soil that is returned to the SOSP following treatment should be reduced in contaminants and be geotechnically sound for construction. Therefore, the soil quality will be improved. Removal of the solid waste at the Area 4 Landfill and replacement with soil that meets health based levels will also be an improvement in soil quality. Therefore, the proposed action should result in long-term benefit to soil quality and stability.

#### I. Demands on Environmental Resources of Water, Air, and Energy

Excavation and treatment of the soil from the SOSP and Area 4 Landfill will have minor impacts on energy since heavy equipment will be required to perform the remedy. The DEQ does not anticipate any significant impacts to water or air resources.

#### J. Cumulative and Secondary Impacts

Cumulative impacts are impacts that may be negligible or minor for a specific project or action under consideration, but collectively (many similar projects or actions) or incrementally may result in significant impacts. A portion of the excavated material will require treatment in order to meet regulatory and health based levels. The DEQ anticipates an air quality permit for the treatment equipment may be necessary. The equipment would only operate for a limited period of time. Therefore, the DEQ does not anticipate that the alternative would result in significant impacts.

Secondary impacts are those occurring at a later time or distance from the triggering action. Once remediation has been completed at the SOSP and Area 4 Landfill, the soils should not require any further maintenance or remedial action. Therefore, the DEQ does not foresee any secondary impacts.

**Table 2. Potential Impacts on Social, Economic, and Cultural Environment**

Resources		Major	Moderate	Minor	None	Unknown	Discussion Attached
A.	Social Structures and Mores				X		
B.	Cultural Uniqueness and Diversity				X		
C.	Local and State Tax Base and Tax Revenue				X		
D.	Agricultural or Industrial Production			X			X
E.	Human Health			X			X
F.	Access to and Quality of Recreational and Wilderness Activities				X		
G.	Quantity and Distribution of Employment			X			X
H.	Distribution of Population				X		
I.	Demands for Governmental Services			X			X
J.	Industrial and Commercial Activity			X			X
K.	Locally Adopted Environmental Plans and Goals				X		
L.	Cumulative and Secondary Impacts			X			X

**D. Agricultural or Industrial Production**

The existing remedy at the SOSOP limits the space's use and presents geotechnical problems for construction. The proposed remedy will remove these limitations. The proposed action is a benefit for industrial production.

**E. Human Health**

Excavation, handling, and treatment of the soils may expose on-site workers to contaminated soil. However, the impacts should be limited. ConocoPhillips must comply with Occupational Safety and Health Administration (OSHA) regulations including those for hazardous waste operations. Mitigation of exposure may include personal protective equipment, dust suppression, and air monitoring. ConocoPhillips will be required to comply with applicable air quality regulations that are protective of ambient air quality surrounding the refinery. Therefore, the proposed remedy should not negatively effect the surrounding community.

The proposed remedy will result in a reduction in the long-term human exposure potential because the toxicity, mobility, and volume of contaminated soil will be reduced. Compared to the existing remedy

where contamination has been left in place, the proposed remedy reduces long-term potential human exposure.

**G. Quality and Distribution of Employment**

Implementing the proposed remedy may result in a temporary increase of employees. Therefore, a temporary minor impact to the distribution of employment may occur.

**I. Demands for Governmental Services**

The modified permit will require ConocoPhillips to submit a Corrective Measures Implementation Work Plan and other documents associated with remedy implementation and the staging pile. The documents will be reviewed by the DEQ. Therefore, a minor impact to government services is anticipated.

**J. Industrial and Commercial Activity**

ConocoPhillips may hire construction companies and consulting firms to complete the proposed remedy. Therefore, minor impacts to industrial and commercial activity are anticipated.

**L. Cumulative and Secondary Impacts**

After completion of the proposed remedy, use of the SOSP will no longer be restricted. ConocoPhillips will be able to develop this area. The new refinery unit may result in an increase or improvement in efficiency at the facility; this would be a secondary impact to industrial and commercial activity.

**Individuals or Groups Contributing to EA**

Montana Department of Environmental Quality

**Draft EA Prepared**

Denise A. Kirkpatrick  
December 13, 2005

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**Recommendation**

Based on the EA analysis, the DEQ recommends Alternative I (the proposed action). ConocoPhillips has submitted a complete permit application. The permit will include conditions that are protective of human health and the environment. The final permit will take into account all comments received during the public comment period.

The EA is an adequate level of environmental review; an EIS is not required. The EA analysis demonstrates that this State action will not be major action significantly effecting the quality of the human environment.